

No.

8700200

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Nickerson American Plant Breeders, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS BY THE OWNER OF THE RIGHTS. (34 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Abilene'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 30th day of December in the year of our Lord one thousand nine hundred and eighty-eight.

Attest:

Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Richard E. Lyng
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Nickerson American Plant Breeders Inc.		2. TEMPORARY DESIGNATION W81-362-5		3. VARIETY NAME Abilene	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 5201 Johnson Drive Mission, Kansas 66205		5. PHONE (Include area code) 913-384-4940 KS 303-532-3721 CO		FOR OFFICIAL USE ONLY PVPO NUMBER 8700200	
6. GENUS AND SPECIES NAME Triticum estivum		7. FAMILY NAME (Botanical) Gramineae		FILING DATE August 31, 1987 TIME 9:30 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
8. KIND NAME Hard Red Winter Wheat		9. DATE OF DETERMINATION 1=1981 2=1985		FEES RECEIVED AMOUNT FOR FILING \$ 1800.00 DATE August 31, 1987 AMOUNT FOR CERTIFICATE \$ 200.00 DATE Nov. 1, 1988	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation				12. DATE OF INCORPORATION January 19, 1983	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware					
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS R.E. Heiner 5201 Johnson Drive Mission, KS 66205 (913)384-4940 OR R.F. Bruns or C. Bruns 806 N. Second St. Berthoud, CO 80513 (303)532-3721 PHONE (Include area code):					
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.) d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. f. Exhibit F, Quality & Agronomic Data					
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input type="checkbox"/> No					
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> Foundation <input checked="" type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified		
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No					
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No					
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF APPLICANT Robert Bruns				DATE 7-20-87	
SIGNATURE OF APPLICANT R.E. Heiner				DATE 8-18-87	

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF ABILENE

Abilene was derived in 1983 as a single F7 head-row reselection from the segregating motherline W81-362. W81-362 was an F3 derived line from the cross OK11252/W76-1226, which had superior performance in yield trials but was recycled in head-rows due to excessive levels of segregation.

Abilene was tested under the experimental line number W81-362-5 in preliminary and replicated yield trials at numerous locations in the Hard Red Winter Wheat Region of the Great Plains from 1984-1986. It was entered in the 1986 Southern Regional Performance Nursery (SRPN) and was the highest yielding line over locations. It is entered in the 1987 SRPN, and official state and private trials in Texas, Oklahoma, Kansas, Colorado, Nebraska, Missouri, New Mexico and South Dakota for further testing.

In 1984 .005 of an acre derived from a single F7 head was grown as a preliminary Breeder Seed Increase. In 1985 450 pounds of Breeder Seed was produced in Berthoud, Colorado.

Abilene is uniform and stable. Less than .5% of the plants were rogued from the foundation fields in 1986. Approximately 95% of the rogued variant plants were 3 to 12 centimeters taller than Abilene. Less than .5% total variant plants may be encountered in subsequent generations.

EXHIBIT B
NOVELTY STATEMENT

Abilene is most similar to the hard red winter wheat Trailblazer. However, it can be distinguished by the following morphological characteristics:

- Abilene has a blue-green plant color at boot stage.
Trailblazer has a green plant color at boot stage.
- Abilene and Trailblazer both have acuminate type beak lengths. However, Abilene's beak length is significantly longer than Trailblazer's (see statistical data following page).
- Abilene has a glume length classified as medium.
Trailblazer has a glume length classified as long, (see statistical data following page).
- Both Abilene and Trailblazer differ significantly in plant height (see statistical data following page).

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TABLE FOR GLUME LENGTH
ABILENE VERSUS TRAILBLAZER

<u>SOURCE</u>	<u>DF</u>	<u>SS</u>	<u>MS</u>
TOTAL	49	29.642	
VAR	1	22.984	22.98400
ERROR	48	6.658	0.13870

F-TEST = 165.713**
CV = 0.495
LSD(5%) = 0.042

MEANS FOR EACH VARIETY

ABILENE = 7.96 mm
TRAILBLAZER = 9.32 mm

** The difference in means of glume length are significantly different at the 1% probability level.

ANOVA TABLE FOR BEAK LENGTH
ABILENE VERSUS TRAILBLAZER

<u>SOURCE</u>	<u>DF</u>	<u>SS</u>	<u>MS</u>
TOTAL	49	238.020	
VAR	1	151.380	151.37959
ERROR	48	86.641	1.80502

F-TEST = 83.866**

CV = 3.926

LSD(5%) = 0.152

MEANS FOR EACH VARIETY

ABILENE = 7.17 mm

TRAILBLAZER = 3.69 mm

** The difference in means of beak length are significantly different at the 1% probability level.

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ANOVA TABLE FOR PLANT HEIGHT

ABILENE-MESA-TRAILBLAZER

<u>SOURCE</u>	<u>DF</u>	<u>SS</u>	<u>MS</u>
TOTAL	98	10931.344	
VAR	2	671.889	335.94460
ERROR	96	10259.455	106.86932

F-TEST = 6.287**

CV = .207

LSD(5%) = .886

MEANS FOR EACH VARIETY

ABILENE = 69.24 cm

MESA = 67.12 cm

TRAILBLAZER = 73.39 cm

**The difference in means of plant height are significantly different at the 1% probability level.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Nickerson American Plant Breeders Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

5201 Johnson Drive
Mission, Kansas 66205

FOR OFFICIAL USE ONLY

PVPO NUMBER

8700200

VARIETY NAME OR TEMPORARY DESIGNATION

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g., 0 8 9 or 0 9) when number is either 99 or less or 9 or less.

1. KIND:

1 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

2 1 = SPRING 2 = WINTER 3 = OTHER (Specify) 2 1 = SOFT 3 = OTHER (Specify)
2 = HARD

2 1 = WHITE 2 = RED 3 = OTHER (Specify)

3. SEASON - NUMBER OF DAYS FROM planting to:

2 3 4 FIRST FLOWERING 2 4 0 LAST FLOWERING

4. MATURITY (50% Flowering):

EQUAL TO TRAILBLAZER

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS

NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7 = Trailblazer

5. PLANT HEIGHT (From soil level to top of head):

0 6 9 CM. HIGH

CM. TALLER THAN

0 4 CM. SHORTER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = NUGAINES 6 = LEEDS 7 = Trailblazer

6. PLANT COLOR AT BOOTING (See reverse):

3 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHR COLOR:

1 1 = YELLOW 2 = PURPLE

8. STEM:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT

2 Hairiness of last internode or rachis: 1 = ABSENT 2 = PRESENT

0 4 NO. OF NODES (Originating from node above ground)

2 Waxy bloom: 1 = ABSENT 2 = PRESENT

1 Internodes: 1 = HOLLOW 2 = SOLID

2 1 CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

2 Anthocyanin: 1 = ABSENT 2 = PRESENT

2 Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

1 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED
3 = OTHER (Specify):

2 Flag leaf: 1 = NOT TWISTED 2 = TWISTED

1 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

2 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

1 4 MM. LEAF WIDTH (First leaf below flag leaf)

2 3 CM. LEAF LENGTH (First leaf below flag leaf)

FORM GR-470-6 (REVERSE)

11. HEAD:

☐ 3 Density: 1 = LAX 2 = DENSE 3 = Middense ☐ 2 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) _____

☐ 4 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

☐ 1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

☐ 9.1 CM. LENGTH ☐ 1.1 MM. WIDTH

12. GLUMES AT MATURITY:

☐ 2 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) ☐ 1 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)

☐ 2 Shoulder: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED
shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE ☐ 3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

☐ 1 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

☐ 2 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

☐ 2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

☐ 1 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL ☐ 1 Cheek: 1 = ROUNDED 2 = ANGULAR

☐ 2 Brush: 1 = SHORT 2 = midlong 3 = LONG ☐ 1 Brush: 1 = NOT COLLARED 2 = COLLARED

☐ --- Phenol reaction 1 = IVORY 2 = FAWN 3 = LT. BROWN
(See instructions): 4 = BROWN 5 = BLACK

☐ 3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

☐ 6.0 MM. LENGTH ☐ 3.3 MM. WIDTH ☐ 3.0 GM. PER 1000 SEEDS

17. SEED CREASE:

☐ 1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI' ☐ 1 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = Moderately Susceptible 4 = Moderately Resistant

☐ 4 STEM RUST (Races) ☐ 3/4 LEAF RUST (Races) field races ☐ 0 STRIPE RUST (Races) ☐ 0 LOOSE SMUT

☐ 1 POWDERY MILDEW ☐ 0 BUNT ☐ 2 OTHER (Specify) Soil Borne Mosaic Virus

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = Moderately Susceptible 4 = Moderately Resistant

☐ 0 SAWFLY ☐ 0 APHID (Bydv.) ☐ 0 GREEN BUG ☐ 0 CEREAL LEAF BEETLE

☐ 0 OTHER (Specify) _____ HESSIAN FLY } ☐ 1 GP ☐ 0 A ☐ 0 B ☐ 0 C
RACES: } ☐ 0 D ☐ 0 E ☐ 0 F ☐ 0 G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Trailblazer	Seed size	Trailblazer
Leaf size	Trailblazer	Seed shape	Trailblazer
Leaf color	Stallion	Coleoptile elongation	Trailblazer
Leaf carriage	Trailblazer	Seedling pigmentation	Trailblazer

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook or seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

EXHIBIT D

ADDITIONAL BOTANICAL DESCRIPTION OF ABILENE

Abilene is a hard red winter wheat bred and developed by Nickerson American Plant Breeders Inc. It was tested as experimental number W81-362-5.

Abilene is a very high yielding, medium maturity, short to intermediate semidwarf wheat with very good levels of winterhardiness and good milling and baking properties. Abilene has consistently been in the top yield group throughout much of the HRWW region.

In addition to its high yield potential Abilene has been identified as having; excellent test weight patterns, good drought response, very good to excellent straw strength, very good protection to the prevalent races of leaf rust and speckled leaf blotch, excellent protection to soil borne mosaic virus, fair to good protection against tan spot and wheat spindle streak mosaic virus. Abilene is susceptible to Hessian fly and powdery mildew.

Juvenile growth habit is semi-erect. Plant color at boot is blue-green with an erect, twisted flag leaf. Head shape is strap to tapering, middense, awned and head color is white at maturity. Auricle anthocyanin and auricle hairs are present. Glumes are midlong and narrow with oblique shoulders and acuminate beaks. Seed shape is ovate with rounded cheeks. Seed crease is narrow and shallow.

Abilene's primary area of adaptation has tentatively been identified as northern two-thirds of the HRWW region (Blackwell, Oklahoma, and north), plus the panhandle regions of Oklahoma and Texas. Abilene was the highest yielding line over locations in the 1986 Southern Regional Performance Nursery (SRPN) indicating that it has a very broad area of adaptation in the central Great Plains.

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

Nickerson American Plant Breeders Inc. is the applicant for protection in this case being:

- a) The incorporated business (registered in Delaware) for and within which regular employees have bred the named variety.
- b) The proprietary owner and intending commercial user of the variety.

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EXHIBIT F.
QUALITY AND AGRONOMIC DATA

Quality Datapage 1.
Agronomic Data and Pathological Traits page 2.

AGRIPRO SEEDS

YEAR: 1986

HARD RED WINTER WHEAT QUALITY

PAGE 1

YEAR	SAMPLE NAME	LOC	WHEAT--FLOUR QUALITY										BAKING QUALITY										MILL SCORE	BAKE SCORE	TOTAL SCORE
			TEST WT.	WHT PROT	FLR YLD	FLR PROT	FLR ASH	MIX CURVE	ABS. %	MIX TIME min	DOUGH CHAR R	LOAF VOL cc	CRUMB			COL	R								
													GRN	TEX	R										
ABILENE			lb/Bu	14%mb	%	14%mb	14%mb	%	14%mb	R	%	min	R	cc	R	R	R	R	R	R	R	R	R	R	
84	HW81-362-5	SO	60.3	13.5	71.6	12.5	0.000	6	63.0	3.5	8	1000+	8	8	8	88-B	90-A	178-B							
85	HW81-362-5	TI	63.5	12.0	68.8	10.9	0.432	6	61.0	2.5	7	840	6	5	7	72-C	67-D	139-D							
85	HW81-362-5	SK	53.1	13.2	69.1	12.5	0.430	7	64.0	3.3	7	960	8	7	8	75-C	86-B	161-B							
85	HW81-362-5	BB	61.5	12.9	69.6	12.4	0.407	7	64.0	2.5	7	960	9	8	8	93-B	86-B	169-B							
85	HW81-362-5	GK	60.6	12.6	68.6	11.3	0.393	7	64.0	2.8	7	880	7	8	8	78-C	80-B	153-C							
86	W81-362-5	NO	58.8	13.1	64.5	11.9	0.411	6	62.0	4.3	8	1000+	8	8	8	71-C	88-B	159-C							
86	W81-362-5	WK	59.7	12.3	62.8	11.3	0.487	5	62.0	3.8	8	980	6	8	8	64-D	84-B	148-C							
86	W81-362-5	GI	61.9	12.3	65.5	10.9	0.408	7	65.0	2.5	8	900	7	8	8	70-C	83-B	153-C							
AVERAGE			59.9	12.7	67.6	11.7	0.424	6	63.1	3.2	8	953	7	8	8	74-C	85-B	159-C							
84	NEWTON	SO	57.5	11.6	69.3	10.5	0.000	4	60.0	3.8	8	860	8	7	8	62-D	78-C	140-C							
85	NEWTON	TI	59.7	12.5	67.9	11.5	0.509	7	65.0	2.5	8	810	7	8	7	76-C	78-C	154-C							
85	NEWTON	SK	52.1	12.6	66.8	11.6	0.431	5	60.0	3.0	7	840	5	6	7	59-F	67-D	123-D							
85	NEWTON	BB	56.7	13.2	66.8	12.2	0.378	7	64.0	3.3	8	1000	8	9	8	73-C	91-A	164-B							
85	NEWTON	GK	54.8	13.6	66.7	12.2	0.406	6	62.0	3.8	7	930	8	9	9	67-D	86-B	153-C							
86	NEWTON	NO	54.5	12.0	63.7	10.9	0.000	7	63.0	4.0	8	980	7	7	8	60-D	86-B	146-C							
86	NEWTON	WK	55.7	10.8	60.6	9.7	0.420	5	63.0	3.3	7	780	8	8	8	47-F	78-C	125-D							
86	NEWTON	GI	60.3	11.4	66.5	9.8	0.407	6	64.0	2.8	8	830	8	8	8	62-D	81-B	143-C							
AVERAGE			56.4	12.2	66.0	11.1	0.425	6	62.6	3.3	8	879	7	8	8	64-D	80-B	144-C							

GRADES: A-EXCELLENT B-GOOD C-ACCEPTABLE D-QUESTIONABLE F-UNACCEPTABLE
 R-RATINGS: 9-10=EXCELLENT 8-GOOD 7=ACCEPTABLE 5-6=QUESTIONABLE 1-4=UNACCEPTABLE

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RELATIVE RANKINGS OF ABILENE AND 17 OTHER HRWW VARIETIES
FOR VARIOUS AGRONOMIC AND PATHOLOGICAL TRAITS

VARIETY	TEST WEIGHT	SHATTERING POTENTIAL	ANTHESIS	PHYSIOLOGICAL MATURITY	COLEOPTILE EXPRESSION	HEIGHT	STRAW STRENGTH	WINTERHARDINESS	LEAF RUST	STEM RUST	SOIL BORNE MOAIC VIRUS	SPINDLE STREAK MOAIC VIRUS	SEPTORIA TRITICI	TAN SPOT	POWDERY MILDEW	HESSIAN FLY
Abilene	3	6	5	6	5	4	2	3	3	6	2	4	2	5	7	8
Trailblazer	4	5	5	5	4	4	5	5	4	4	3	4	3	2	8	8
Mesa	3	6	3	4	4	3	2	5	3	4	3	3	5	7	6	4
Siouxland	4	6	5	5	5	6	5	3	3	2	8	7	3	4	2	7
Brule	6	8	6	5	6	5	6	2	7	5	6	5	5	7	8	2
Rocky	4	6	7	6	3	7	7	4	7	4	2	2	5	5	4	8
Tam 107	6	4	2	2	4	3	3	3	8	5	6	5	5	6	1	8
Arkan	5	7	4	3	2	4	4	4	4	1	2	4	3	5	2	2
Vona	6	4	5	4	8	3	3	7	7	6	8	9	5	5	4	4
Tam 105	6	3	3	4	5	4	3	3	8	8	6	9	4	5	5	8
Newton	5	4	4	4	6	4	5	7	8	5	2	4	6	7	5	8
Wings	2	5	5	4	7	4	6	5	7	5	8	5	4	5	4	4
Hawk	6	3	5	6	5	4	5	5	8	4	3	2	6	4	4	8
Wrangler	3	3	5	3	6	3	3	5	7	4	3	7	7	7	7	6
Mustang	4	3	5	3	6	3	4	6	8	5	3	6	7	4	7	6
Thunderbird	4	6	5	5	1	5	3	3	2	2	1	6	3	7	6	4
Victory	6	6	5	3	3	4	4	4	3	5	2	1	4	4	5	8
Stallion	4	6	5	4	5	3	1	6	6	7	3	6	3	6	6	4
Mean Score	4.5	5.1	6.7	4.9	6.2	5.3	5.1	6.4	6.7	4.3	4.9	5.7	4.4	5.3	5.5	5.8
Std. Dev.	1.3	1.5	3.9	1.9	4.1	3.9	3.2	3.8	3.3	1.9	3.9	3.6	1.5	1.4	2.2	2.4

The rankings in the table above are based on a scale of 1-9, where 1 and 9 represent the following extremes for the respective traits.

	1	9
Test Weight	high	low
Shattering Potential	low	high
Maturity	early	late
Coleoptile Expression	short	long
Straw Strength	strong	weak
Winterkill	hardy	tender
All disease & insect ratings	resistant	susceptible